Contribution ID: **95** Type: **Parallel**

# The ENUBET neutrino beam

*Friday, July 6, 2018 9:00 AM (15 minutes)*

ENUBET has been designed to monitor lepton production in the decay tunnel of neutrino beams at single particle level and to provide a 1% measurement of the neutrino flux at source. In particular, the three body semileptonic decay of kaons monitored by large angle positron production offers a fully controlled nu_e source at the GeV scale for a new generation of short baseline experiments. The ENUBET Collaboration will present at ICHEP the first end-to-end simulation of the beamline and a complete review of the performance of this non-conventional technique. Special emphasis will be given to the new static focusing system that has been validated in 2018. Beyond positron monitoring, such scheme gives the opportunity to correlate in time the lepton at source and the neutrino at the detector. Time-coincidences enable an unprecedented purity and the possibility to reconstruct the neutrino kinematics at source on an event by event basis. We will also present the performance of the positron tagger tested at CERN in 2017-2018 and the expected sensitivity of ENUBET for nu_e and nu_mu cross section measurements.

**Primary author:** TERRANOVA, Francesco (Universita & INFN, Milano-Bicocca (IT))

**Presenter:** TERRANOVA, Francesco (Universita & INFN, Milano-Bicocca (IT))

**Session Classification:** Neutrino Physics

**Track Classification:** Neutrino Physics